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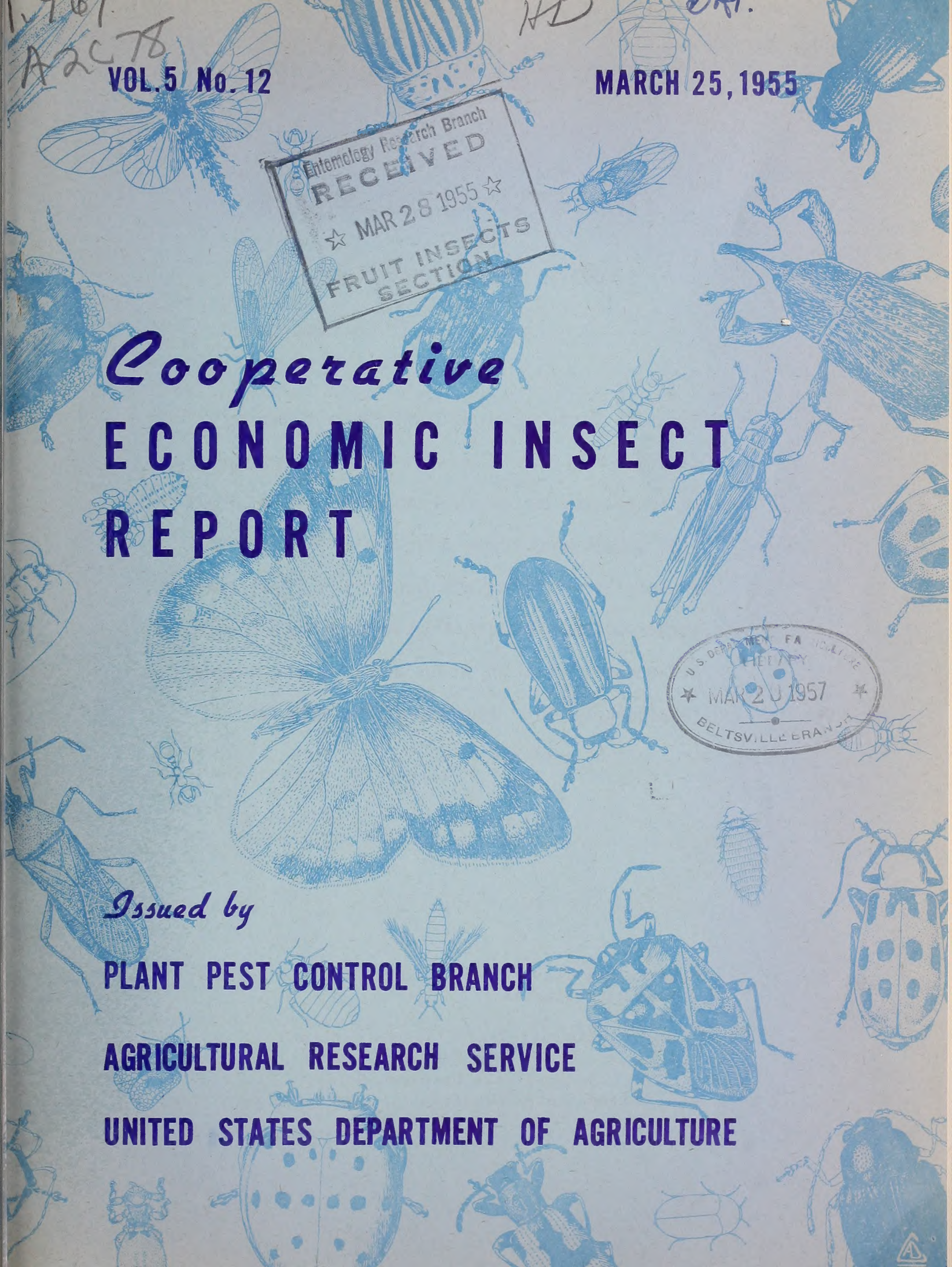

VOL.5 No. 12

MARCH 25, 1955

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Cooperative
ECONOMIC INSECT REPORT

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UNITED STATES DEPARTMENT OF AGRICULTURE

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ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Economic Insect Survey Section
Plant Pest Control Branch
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

Volume 5 March 25, 1955 No. 12

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

CORN LEAF APHID heavy and widespread on small grain in north central Texas and southern Oklahoma. (page 247).

YELLOW CLOVER APHID very abundant on alfalfa in south central Oklahoma. Heavy widespread infestations in north central and other areas of Texas. Continues to increase in some sections of Arizona. (page 250).

ARMYWORM moths active in Mississippi, Louisiana, Arkansas, and Tennessee. Also other light trap collections. (pages 256, 258).

EUROPEAN CORN BORER damage estimates for 1954. (page 248).

Outlook for some APPLE PESTS in Virginia. (page 251).

Overwintering CODLING MOTH larvae more plentiful at Vincennes, Indiana, than since 1944. (page 251).

SEED-CORN MAGGOT adults active on spinach in Arkansas Valley of Oklahoma. Heavy locally in Mississippi. (page 253).

BOLL WEEVIL survival counts in Madison Parish, Louisiana, higher than normal. (page 254).

Unusually large numbers of LONG-NOSED CATTLE LOUSE on untreated cattle in central and western areas of Oklahoma. (page 254).

Summary of INSECT CONDITIONS - 1954 - in Montana. (page 259).

* *

Reports in this issue are for the week ending March 18, 1955, unless otherwise designated.

WEATHER BUREAU'S 30-DAY OUTLOOK
Mid-March to Mid-April 1955

The Weather Bureau's 30-day outlook for the period from mid-March to mid-April calls for temperatures to average below seasonal normals over the northern third of the nation, with greatest departures over the Northern Plains. Above normal temperatures are expected over the southern third with greatest departures in the Gulf States. Large fluctuations between wintry and spring-like conditions are expected in the central third, where temperatures averaging near normal are anticipated.

Precipitation is expected to exceed normal over the southwestern and northeastern quarters of the nation. Sub-normal amounts are predicted in the Gulf States, the Southeast, and the Pacific Northwest. Elsewhere near normal amounts are in prospect.

This report released by the Weather Bureau on March 15, 1955.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington, D. C. Price: $4.80 a year, $2.40 for six months.

WEATHER FOR THE WEEK ENDING MARCH 21, 1955

As if taking advantage of its last week of existence on the calendar, winter weather reasserted itself the past week in the form of an outbreak of Polar air during the early part of the period and an outbreak of even colder Arctic air over the weekend. These outbreaks penetrated almost to the Gulf Coast, bringing snow back to the Western Plains States and causing some damage to crops that had been left susceptible by the early season warming of the previous week.

The return of cold air during the week brought below normal temperatures back to New England and the northern and western parts of the Country. This was the first time in 5 weeks that the temperature had been below normal in the area from Pennsylvania through New England. Temperatures dipped to record lows for this late in the season at Medford, Oreg. (20°), and International Falls, Minn. (-19°) on the 20th. A low of 11° at Burns, Oreg., equaled the record for that station on the 20th. Ahead of the outbreak, records were also established for highest temperatures (Weather continued on page 257).

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - TEXAS - Medium to heavy widespread infestation on wheat in Swisher, Hale and Floyd Counties. The heaviest infestation continued in Swisher County where thousands of greenbugs found per foot in spotted areas, and a few fields showed damage spots. (Simonds, Daniels). Light local infestation of oat, wheat and barley fields widely distributed through north central area, north of Dallas and Forth Worth. Infestation not spreading. (Chada). Small areas of greenbugs showing up on small grains in Denton County. (Petty). MISSISSIPPI - Heavy infestation on barley in 100-acre field in Lowndes County. (Hunsucker). ARIZONA - Below economic numbers in barley at Marana. (Ariz. Coop. Rept.).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Large numbers in oats and barley along southern border of Oklahoma. No heavy infestation farther north. (Bierberdorf, Bryan, Chada). TEXAS - Heavy widespread infestation in barley and oats. Heavy damaging infestation throughout all of north central area, north of Dallas and Fort Worth. Control measures necessary in barley. (Chada). Heavy widespread infestation in Kaufman County, killing barley. (Porter). Medium local infestation on barley in Madison County. (Garrett).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Heavy widespread infestation on oats throughout north central area, but decreasing following recent hot weather. Extensive control measures. (Chada). Small grains heavily infested in Denton County, some severe damage. Considerable spraying. (Petty).

WHEAT CURL MITE (Aceria tulipae) - NEBRASKA - Found in a field containing volunteer wheat in Lancaster County. (Andersen, March 12).

BROWN WHEAT MITE (Petrobia latens) - TEXAS - Medium local infestation on wheat in Denton and Cooke Counties. Average several hundred per linear foot of row. Damage apparent. (Chada).

APPLE GRAIN APHID (Rhopalosiphum fitchii*) - TEXAS - Heavy local infestation on rye in Grayson County. (Chada).

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*Palmer, M. A. 1952. Aphids of the Rocky Mountain Region, p. 215.

ESTIMATES OF DAMAGE BY THE EUROPEAN CORN BORER TO GRAIN CORN IN THE UNITED STATES IN 1954

Compiled by Leo G. K. Iverson
Economic Insect Survey Section, Plant Pest Control Branch
United States Department of Agriculture

The loss of grain corn resulting from damage caused by the European corn borer (Pyrausta nubilalis) is estimated to be almost 192 million bushels. This is approximately 7 percent of the national crop of grain corn estimated at 2,652,426,000 bushels. The value of the crop lost when computed on the basis of prices 1/ received by farmers as of December 15, 1954 is $261,415,000. The estimates were made for 958 counties in 25 States which produce 90 percent of the corn grown for grain and include 60 percent of all the counties known to be infested in the United States.

The estimated production, value of production and crop losses for counties included in the estimate are summarized and reported by States in Table 1. These estimates were compiled using production data 2/ except as noted, applied to individual counties or districts within each State. Since county and district data were not available for 1954, it was necessary to compute production for each unit. This was accomplished by using the percentage of total State production for each unit as established from production reports of recent years.

The estimated crop losses are based on fall surveys of borer populations made by State Agencies in 608 counties in 25 States 3/. They were computed for 350 more counties

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1/ U.S. Agricultural Marketing Service. Agricultural Prices Report, Crop Reporting Board, December 31, 1954.

2/ Crop Production, Crop Reporting Board, Agricultural Marketing Service, U.S. Department of Agriculture, Annual Summary, December 1954.

3/ Iverson, Leo G. K. Status of the European Corn Borer in 1954. Cooperative Economic Insect Report, Vol. 5, No. 4, pp. 67-85, January 28, 1955, Plant Pest Control Branch, Agricultural Research Service, U.S. Department of Agriculture.

Table 1. Estimates of damage by the European corn borer to corn grown for grain in the United States in 1954

State	Counties		Total State Production	Estimated data			
	Known to be infested 1/	Included in estimate		Value per bushel	Value of production	Loss of crop	
	Number	Number	1,000 Bu.	Dollars	1,000 Dol.	1,000 Bu.	1,000 Dol.
Connecticut	8	8	188	1.75	329	Trace	1
Delaware	3	3	5,115	1.48	7,570	108	160
Illinois	102	102	429,116	1.31	562,141	38,242	53,922
Indiana	92	92	247,652	1.36	336,806	3,123 3/	4,247 3/
Iowa	99	99	521,640	1.36	709,430	93,950	127,772
Kansas	88	25	31,388	1.45	45,512	164	238
Kentucky	98	98	63,860	1.40	89,404	1,012	1,416
Maryland	23	23	16,400	1.51	24,764	167	252
Massachusetts	14	1	184	1.75	322	Trace	1
Michigan	51	17	69,476	1.36	94,487	552	750
Minnesota	87	69	242,476	1.24	300,670	5,697	7,064
Missouri	112	47	59,560	1.47	87,553	1,053 4/	1,548 4/
Nebraska 2/	83	33	188,160	1.40	263,424	22,000	30,800
New Hampshire	9	7	86	1.75	150	Trace	1
New Jersey	21	12	6,864	1.58	10,845	51	81
New York	60	17	9,636	1.56	15,032	8	13
North Dakota	44	18	10,633	1.19	12,653	167	199
Ohio 2/	88	88	212,976	1.40	298,166	6,517	9,124
Pennsylvania	67	67	49,680	1.56	77,500	268	419
Rhode Island	5	5	33	1.75	58	Trace	1
South Dakota	63	41	102,388	1.25	127,985	17,650	22,063
Vermont	14	5	84	1.75	147	Trace	1
Virginia	92	7	26,004	1.64	42,646	112	183
West Virginia	51	3	8,055	1.49	12,001	2	3
Wisconsin	71	71	96,360	1.50 2/	144,540	771 2/	1,156 2/
Total	1,445	958	2,398,014	-	3,264,135	191,614	261,415

1/ Does not include 151 counties in 12 other States for which estimates were not made.
2/ Estimates prepared by States; production and crop values differ slightly from December 15 AMS reports.
3/ State estimate of damage used in computing loss.
4/ Adjusted loss prepared by State.

than surveyed by applying population averages within a district and averages of adjoining or nearby counties to counties not surveyed. The index of 3 percent loss per borer per plant was used generally in computing estimates of loss. In some instances the estimated losses were adjusted downward where significant numbers of immature larvae were recorded in the surveys.

The loss of corn due to damage by the European corn borer for 5 years prior to 1954 is estimated in bushels and crop loss value as follows: in 1953 about 90 million bushels valued at $125,466,000; in 1952, 53,270,000 bushels, $77,205,000; in 1951, 35,812,000 bushels, $57,438,000; in 1950, 58,765,000 bushels, $84,912,000; and in 1949, 313,819,000 bushels, $349,635,000.

ARMY CUTWORM (Chorizagrotis auxiliaris) - NEBRASKA - Found in wheat stubble fields and alfalfa-bromegrass. Counts low, highest being 4 in wheat stubble field in Red Willow County and one in alfalfa-bromegrass field in Lincoln County. (Andersen, March 12).

CHINCH BUG (Blissus leucopterus) - NORTH CAROLINA - An infestation of oats in Union County. Population heavy in spots along margin of a field. (Morgan).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - OKLAHOMA- Ten percent of overwintering larvae observed March 17 were dead. (Arbuthnot, Walton).

YELLOW CLOVER APHID (Myzocallis trifolii) - OKLAHOMA - Very abundant in alfalfa in south central area. Some fields severely damaged. North of Oklahoma City only isolated alfalfa fields have heavy populations. Large numbers of predators in many fields. (Bieberdorf, Bryon, Bower, Chada). TEXAS - Building up rapidly in many alfalfa and clover growing areas. Heavy on alfalfa in Hamilton County. (Lawrence). Heavy in Denton County, controls underway. (Petty). Medium to heavy infestations in McLennon and Falls Counties, all fields apparently infested. Some fields treated, others warrant treatment. (Cowan, Parencia). Medium to heavy damage in Brazos River Bottom of Brazos and Burleson Counties. Considerable migration during past two weeks. Most fields of alfalfa and clovers have heavy deposits of honeydew. Effectiveness of treatment reduced because of reinfestation during migration. (Randolph, Davis). Heavy widespread infestation on alfalfa throughout all of north central Texas. Numerous alfalfa fields killed out; infestation generally very heavy. Treatment underway. (Chada). ARIZONA - Still increasing on alfalfa at Yuma, Gila Bend, Mesa, Eloy and Marana. At Yuma fields treated more than five weeks ago have heaviest buildup. (Ariz. Coop. Rept.).

PEA APHID (Macrosiphum pisi) - MARYLAND - Small numbers in alfalfa fields in Worcester County. (U. Md., Ent. Dept.).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - ILLINOIS - Average of one per square foot in 2 red clover fields in central area, .63 per square foot in 4 fields in western area. (Petty).

CLOVER LEAF WEEVIL (Hypera punctata) - MARYLAND - Light numbers of larvae in alfalfa fields in Worcester County. (U. Md., Ent. Dept.). ILLINOIS - Average of 12 larvae per square foot found in 4 red clover fields in western area and 11 per square foot in 2 in central area. (Petty).

ALFALFA WEEVIL (*Hypera postica*) - MARYLAND - Adults active in alfalfa fields in Worcester County. Mating underway. (U. Md., Ent. Dept.).

EGYPTIAN ALFALFA WEEVIL (*Hypera brunneipennis*) - ARIZONA - Second and third instars numerous on alfalfa in Maricopa County. No noticeable damage. (Ariz. Coop. Rept.).

SWEETCLOVER WEEVIL (*Sitona cylindricollis*) - NEBRASKA - A few overwintering adults active in a second-year clover field in Lancaster County. (Connin, March 12).

CLOVER ROOT CURCULIO (*Sitona hispidula*) - VIRGINIA - Damage to alfalfa in Augusta County field where heaving has occurred. (Woodside).

TARNISHED PLANT BUG (*Lygus lineolaris*) - NEBRASKA - A few overwintering adults found in alfalfa fields in Lincoln and Dawson Counties. (Andersen, March 12).

A MAGGOT (presumably *Hylemya lupini*) - GEORGIA - Forty acres of blue lupine in Dodge County 50 percent infested, 2 percent dead. Larvae boring in roots, March 11. (Bennett).

FRUIT INSECTS

Outlook for Apple Pests in Virginia:

The winter has been favorable for RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) survival and potential for damage is good this spring. A high percentage of UNSPOTTED TENTIFORM LEAF MINER (*Callisto geminatella*) survived and potential for outbreaks during coming season is high. This leaf miner is not expected to become a permanent pest in apple orchards of the upper Shenandoah Valley. SPIDER MITE eggs are quite common in apple orchards in Frederick County. ROSY APPLE APHID (*Anuraphis roseus*) egg populations are very low in orchards in this county, and the pest is not expected to be serious. Winter was also favorable for survival of CODLING MOTH (*Carpocapsa pomonella*) in Frederick County and there is a potential for light to moderate damage; however, spring infestations are not expected to be severe. SCALE INSECTS are low in this county and not much difficulty from these pests is anticipated. (Hough).

CODLING MOTH (*Carpocapsa pomonella*) - INDIANA - Overwintering larvae more plentiful than since 1944 at Vincennes. (Hamilton).

APHIDS - INDIANA - Apple aphids hatched March 13 at Orleans, week earlier than in 1954. Population extremely light. (Marshall). An occasional newly hatched aphid, species undetermined, at Vincennes March 14. (Hamilton). DELAWARE - Apple grain aphid (*Rhopalosiphum fitchii**) eggs hatching March 16. (Late News).

PEACH TREE BORER (*Sanninoidea exitiosa*) - NORTH CAROLINA - A two-acre field of 8-year old peach trees in Currituck County 90 percent infested. (Scott).

PLUM CURCULIO (*Conotrachelus nenuphar*) - ARKANSAS - Nonexistent to few in Clarksville area. Infestations light, averaging 1 per tree in outside rows in Nashville area. (Warren). TEXAS - First of season jarred from wild plum in Smith County March 14, and in Brazos County March 15. (King, Morris).

EASTERN TENT CATERPILLAR (*Malacosoma americanum*) - ARKANSAS - Active in southern area. Larvae in first and second instars. (Warren). MISSISSIPPI - Observed on native cherry trees in Oktibbeha and Webster Counties and on one property in Forrest County where 2 cherry trees were defoliated. (Hester, Andress).

RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) - INDIANA - No adults found to date. Winter carryover extremely light in southern area. (Hamilton).

SPRING CANKERWORM (*Paleacrita vernata*) - ILLINOIS - Fairly heavy flight of moths in Urbana area March 11. (Petty).

CATFACING INSECTS - ILLINOIS - First tarnished plant bugs jarred at Mounds, March 14--10 from 5 unsprayed fruit trees and 12 from same trees on March 16. (Chandler). INDIANA - One tarnished plant bug and one stink bug found in 5 peach trees jarred March 11 in Vincennes area. None found in 5 trees in another orchard jarred March 14. (Hamilton).

LEAF-FOOTED BUG (*Leptoglossus* sp.) - TEXAS - Heavy local infestation on tangelos in Dimmit County. (Richardson).

CONCHUELA (*Chlorochroa ligata*) - TEXAS - Heavy local infestation on young orange trees (blossoms) in Dimmit County. (Richardson).

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*Palmer, M. A. 1952. Aphids of the Rocky Mountain Region, p. 215.

TRUCK CROP INSECTS

VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) - GEORGIA - Heavy defoliation of turnips in commercial planting in Seminole County, March 10. (Geiger).

CABBAGE APHID (*Brevicoryne brassicae*) - NORTH CAROLINA - A 20-percent infestation of a 4-acre field of young cabbage in Currituck County. (Scott).

TOMATO RUSSET MITE (*Vasates lycopersici*) - NORTH CAROLINA - Infesting petunia plants in greenhouse at Morganton. Tomato plants in same house not infested. Det. E. W. Baker (Jones, Farrier).

SEED-CORN MAGGOT (*Hylemya cilicrura*) - MISSISSIPPI - Destroyed all the seed pieces of Irish potatoes planted February 15 and now working on second planting on one farm in Grenada County. (Douglass). OKLAHOMA - Adults widespread and active in spinach fields in the Arkansas Valley from Boxby to Fort Smith. Maggots found only around roots and in leaf petioles. (Arbuthnot, Walton).

TOBACCO FLEA BEETLE (*Epitrix hirtipennis*) - NORTH CAROLINA - A rather severe infestation of young tobacco in a plant bed in Wilson County. Some plants severely damaged. Also observed in Columbus County, infestations ranging from 1 to 80 percent of plants damaged. (Rabb, Guthrie).

MIDGES - NORTH CAROLINA - Infesting tobacco plant beds in Columbus County. Severe around margins of many beds, with most plants killed, but remaining areas relatively unaffected. (Rabb, Guthrie).

ONION THRIPS (*Thrips tabaci*) - TEXAS - Heavy local infestation on onions in Brazos County. (King).

ARMY CUTWORM (*Chorizagrotis auxiliaris*) - TEXAS - Medium local infestation on onions in Madison County. (Garrett).

A MAGGOT - ARIZONA - Reported from bulbs of garlic on 80 acres at Mesa. (Ariz. Coop. Rept.).

CUTWORMS - ARKANSAS - Damaging gardens in southwest area. (Warren). OKLAHOMA - Garden cutworms very numerous in Oklahoma County. (Bower).

STRAWBERRY CROWN BORER (*Tyloderma fragariae*) - ARKANSAS - Infestations present in southwest area, but not heavy enough to cause concern. (Warren).

STRAWBERRY WEEVIL (*Anthonomus signatus*) - ARKANSAS - Present in the southwest area, but not heavy enough to cause concern. (Warren).

COTTON INSECTS

Boll Weevil Survival Counts in Louisiana:

Ground trash examinations in Madison Parish, completed on March 7, showed an average of 2,021 live weevils per acre. This number is about 2.5 times the average found in this parish during the past 19 years. Based on fall and spring examinations the percentage of survival was 75, which has been exceeded in only three years - 1953, 1949, and 1941. In Ouachita Parish there was 11 percent survival, in St. Landry Parish 29 percent, in Avoyelles Parish 18 percent, in Red River Parish 100 percent and in Bossier Parish 86 percent. Survival figures for previous years for parishes other than Madison are not available. Two-hundred samples were examined in Madison Parish and 20 in each of the remaining parishes. (Gaines).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

JUNIPER WEBWORM (*Dichomeris marginella*) - NORTH CAROLINA - Attacking juniper in Wake County. (Scott).

BARK BEETLES (*Ips* spp.) - NORTH CAROLINA - Killing many pines in Union County. (Marsh). A concentrated flight of hordes of adults observed in Wayne County, the source appearing to be windfalls resulting from 1954 hurricane. (Lewis, Mitchell).

ARBORVITAE APHID - TEXAS - Medium to heavy widespread infestation on arborviate in Llano, Mason and McLennon Counties. Heavy infestations in city of Waco. (Cowan, King).

INSECTS AFFECTING MAN AND ANIMALS

LONG-NOSED CATTLE LICE (*Linognathus vituli*) - OKLAHOMA - Unusually large numbers on untreated cattle in central and western areas. (Bower, Howell).

DOG SUCKING LOUSE (*Linognathus setosus*) - PENNSYLVANIA - Moderate infestation on a dog in Centre County. (Udine).

A MANGE MITE - PENNSYLVANIA - Light to moderate in one herd of cattle in Clearfield County. (Adams).

FLIES - UTAH - House flies and blow flies have become unusually abundant for the early season at Milford, St. George, Santa Clara and Hurricane. (Knowlton). VIRGINIA - House fly becoming active in Richmond and Blacksburg March 8. (Morris).

SHEEP SCABIES - VIRGINIA - During February 268 cases on two premises in Smyth County, 250 cases on one premise in Rockingham County and 47 cases on one premise in Tazewell County. (Livestock Health).

ORIENTAL COCKROACH (*Blatta orientalis*) - UTAH - Infesting kitchen of one large establishment at Logan. Unusual for this species to be so abundant in northern Utah. (Davis, Knowlton). PENNSYLVANIA - Large numbers in honeycombs in Huntingdon County, March 12. (Udine).

STORED-PRODUCT INSECTS

POTATO TUBERWORM (*Gnorimoschema operculella*) - UTAH - Apparently a high mortality in stored potatoes, but some have survived in culls. An intensive control program is planned for infested areas in Washington and Iron Counties this season. (Knowlton).

FLAT GRAIN BEETLES (*Laemophloeus* spp.) - WASHINGTON - Recovered in greater numbers this month in Palouse region. High populations found in bins which had not been previously fumigated. (Walker, Bishop).

MISCELLANEOUS INSECTS

BOXELDER BUG AND CLOVER MITE - TENNESSEE - Heavy scattered infestations being found all across the State. (Mullett).

CASEMAKING CLOTHES MOTH (*Tinea pellionella*) - NORTH CAROLINA - Infesting hotel rooms in Whiteville, Columbus County and Elizabeth City, Pasquotank County. (Scott).

TERMITES - UTAH - Caused serious damage to one auto court at St. George. (Knowlton). WASHINGTON - *Reticulitermes hesperus* infesting one fourth to one third of sub-floor of a farm house near Almota. Considerable damage and treatment required. (Quist, Davis).

OLD HOUSE BORER (Hylotrupes bajulus) - VIRGINIA - Damaged floors so badly in an Augusta County home that boards gave way under foot. (Woodside).

Light Trap Collections:
ARKANSAS - At Fayetteville 73 Pseudaletia unipuncta and 28 Peridroma margaritosa adults taken during week ending March 18. At Stuttgart 8 P. unipuncta and 15 Agrotis ypsilon adults collected. The heaviest catch per any night was 41 P. unipuncta adults on March 12. (Warren).

TENNESSEE - The first armyworm (Pseudaletia unipuncta) moths of the season taken in small numbers from each of the 8 reporting stations except Knox County during week ending March 20. Caenurgia erechthea, taken at 4 stations, showed a very sharp rise in numbers over last week. Seed corn beetles taken in Madison County totaled 3,584, in Maury County 16, Cumberland County 2, and Knox County 5. Other moths collected are as follows: Agrotis ypsilon 10, Peridroma margaritosa 14, Prodenia eridania 54, Plathypena scabra 3. (Dozier).

MISSISSIPPI - Moths collected March 13-18 in 4 counties (Coahoma, Humphreys, Oktibbeha and Pearl River) are as follows: Agrotis ypsilon 40, Feltia subterranea 7, Heliothis armigera 2, Hyphantria cunea 1, Prodenia ornithogalli 13, Pseudaletia unipuncta 92 and Trichoplusia ni 1. (Hutchins).
(See page 258 for additional collections).

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RECENT IMPORTANT INTERCEPTIONS AT PORTS OF ENTRY

Chestnuts from foreign countries have been found infested on a number of occasions recently with living larvae of a chestnut weevil, Curculio elephas Gyll. and the nut fruit tortrix, Laspeyresia splendana Hbn. C. elephas was intercepted in chestnuts in baggage 18 times from Italy, 2 times from Yugoslavia and 2 times from Portugal at New York, N.Y. and Philadelphia, Pa. (various inspectors). L. splendana was intercepted in chestnuts in baggage 45 times from Italy, Portugal, Spain and Yugoslavia at Philadelphia (various inspectors) and in chestnuts in the mails once from England at St. Paul, Minn. (Hecker) and once from Japan at San Pedro, Cal. (Lindsay). These two insects are considered important pests of chestnuts in parts of Europe and Asia. Serious damage is caused by the larvae of both feeding in the nuts often completely destroying them. Additional injury is caused by the adults of the chestnut weevil puncturing the bases of the young nuts to feed, causing a premature nut fall as high as 20 percent of the crop in some instances.

Observations on the biology of this chestnut weevil indicate the adults may be found from July to September. Adult females deposit eggs in clusters in the young nuts. Each female lays about 20 eggs. They hatch in 3-4 weeks. The larvae feed in the nuts until full grown then pupate in the soil. At times pupation and adult emergence occurs in the nuts. In the nut fruit tortrix, adults appear in June and July. Eggs are deposited on the young nuts. They hatch in about 10 days. The young larvae bore into the nuts and feed until completely developed in the fall, then leave the nuts to hibernate in whitish felty cocoons which they spin on the twigs or branches. Occasionally larvae hibernate in the nuts. Pupation and adult emergence occur the following spring.

These two pests of chestnuts are said to be widely distributed throughout Europe and parts of Asia. In addition to chestnuts, *C. elephas* attacks acorns and *L. splendana*, acorns and walnuts. Both insects have been intercepted frequently in past years in chesnuts from Europe. They are not known to be present in the United States. (Compiled Plant Quarantine Branch).

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Weather Continued:
for this early in the season at Macon, Ga. (88°), Charleston, S.C. (88°), Augusta, Ga. (88°), Jacksonville, Fla. (89°), and Savannah, Ga. (90°) on the 16th; and at Mobile, Ala. (85°) and New Orleans, La. (87°) on the 17th. The record was equaled at Jackson, Miss. (85°) on the 16th. Temperatures for the week ranged from a high of 95° at Laredo, Texas to a low of -19° at International Falls, Minn. Precipitation was widespread throughout the week with only Florida, California, parts of Washington and Oregon and the lower section of the Western Plains receiving none. Amounts were generally light except in the area from northeastern Texas through Kentucky to the North Carolina coast where amounts were in excess of 1 inch. Greatest amounts were accumulated in the area of eastern Oklahoma, southern Missouri, and northern Arkansas. Locally heavy amounts up to 8 inches were reported in eastern Oklahoma.

Generally light snowfall on the 20th and 21st, associated with the penetration of Arctic air, brought snow cover back to all parts of the Dakotas and Minnesota, most of Nebraska, and the northern section of Iowa. Snowfall was statewide in Kansas on 21st, but only a trace was accumulated on the ground.

High winds and duststorms continued to sap the scant soil moisture in the lower western Plains region.

Tornadoes were active on the 20th in southeastern Missouri. One cut a path 1 1/2 miles long near East Prairie, Mo., destroying six farm houses and injuring at least one man. Another struck on the Arkansas State line near Hornersville, Mo., destroying some farm buildings, but causing no injuries. A small tornado was also reported near Tupelo, Miss., on the 21st, no damage reports were received, however. Showers and thunderstorms, with some reports of hail, were associated with the unstable conditions in eastern Texas on the 20th and 21st. (Summary Supplied by U.S. Weather Bureau).

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Light Trap Collections (Continued):

LOUISIANA - The more important insects collected at Tallulah, for week ending March 18 are as follows: Agrotis ypsilon 45, Feltia subterranea 37, Heliothis armigera 2, Laphygma exigua 56, Loxostege similalis 57, Peridroma margaritosa 24, Prodenia ornithogallia 29, Pseudaletia unipuncta 120, and Empoasca spp. 23. (Gaines et al).

SUMMARY OF INSECT CONDITIONS - 1954

MONTANA

Reported by State Entomologist Office

General Feeders:

GRASSHOPPERS occurred in high populations on cropland in the north-central area. Other scattered spots throughout the State showed light to moderate damage. The most damaging species was *Melanoplus bivittatus* but *Aulocara elliotti*, which did severe damage in some areas, was probably the species which showed the greatest increase in numbers. Rangeland grasshoppers also appeared in large numbers. The general area of infestation was in the western part of the State and extended east to about the Bear Paw Mountains and south to Stillwater County. This area, although not continuously infested, contained most of the heavy populations in the State. *Camnula pellucida* caused much damage in localized areas while *M. occidentalis* and *M. mexicanus* were present in greater than usual numbers over scattered western areas. MORMON CRICKET (*Anabrus simplex*) - Gregarious bands reported in at least eight different spots; at higher elevations, heaviest in south-central part. Other infestations occurred in the upper Blackfoot River Valley and in Blaine, Judith Basin, and Golden Valley Counties. Scattered crickets were reported over a good many counties in the western part. Approximately 19,000 acres were baited in 1954 to combat these pests. ARMY CUTWORM (*Chorizagrotis auxiliaris*) - Scattered light to moderate damage occurred in Wibaux, Fallon, Carter, Big Horn, Carbon, Gallatin, Jefferson, Madison, and Broadwater Counties. Spotted, severe damage occurred in Cascade, Chouteau, Fergus, Musselshell, Golden Valley, Stillwater, and Yellowstone Counties. In addition to these early spring infestations, damage was noted in the fall to winter wheat in Chouteau and Yellowstone Counties.

WIREWORMS and FALSE WIREWORMS -The damage from false wireworms during 1954 was probably higher than it has been for a number of years. In general the northeastern, north-central and central part suffered damage. Localized infestations and damage occurred in the south-central and southwestern part of the State. For the first time since 1937 an ARMYWORM (*Pseudaletia unipuncta*) outbreak occurred in Montana. Generally this infestation followed the Yellowstone River Valley from Billings east to the North Dakota border. Infestation occurred mostly in small grains although sugar beets and corn were attacked in a few cases. Damage was slight since the crops attacked were very near maturity. NUTTALL BLISTER BEETLE (*Lytta nuttallii*)

Present in large numbers in Dawson, Wibaux, and Richland Counties in small grains, gardens, and in alfalfa. Economic populations of FLEA BEETLES were present in a number of sugar beet fields in Richland County and in surrounding counties during the year.

Small Grain Pests:
WHEAT CURL MITE (*Aceria tulipae*) - An outbreak of wheat streak mosaic, spread by this mite, occurred in north-central and eastern Montana. Although the disease has been present in the State for a number of years, this is the first year when large losses have resulted. ENGLISH GRAIN APHID (*Macrosiphum granarium*) was present in light, non-economic infestations in western mountain valleys and in the northeastern section. SAY STINK BUG (*Chlorochora sayi*) - One local severe infestation in McCone County. WHEAT JOINTWORM (*Harmolita tritici*) has never been a serious enemy of wheat in Montana. Light infestations occurred in Stillwater and Fergus Counties. A SPIDER MITE (*Paratetranychus pratensis*) - Winter wheat fields in Chouteau County showed some local, marginal damage in the spring. WHEAT STEM SAWFLY (*Cephus cinctus*) - Economic damage was more widespread than ever before. The insect has previously been reported from all counties east of the Continental Divide. Whether the upsurge in damage in 1954 is the result of local optimum conditions or is of a more permanent nature has not been determined. A WESTERN WHEAT APHID (*Brachycolus tritici*) is perennially present in the central area where care is not taken to eliminate volunteer plants from fallow ground.

Corn Pests:
CORN EARWORM (*Heliothis armigera*) was not as prevalent during 1954 as in the last two or three years. Infestations were confined to the southeastern and western mountain valleys. EUROPEAN CORN BORER (*Pyrausta nubilalis*) was first reported in Montana in 1951. No new economic infestation has been observed during the last two years. EUROPEAN EARWIG (*Forficula auricularia*) is common in the western and southwestern areas. It is being reported from new areas every year.

Alfalfa and Clover Pests:
ALFALFA WEEVIL (*Hypera postica*) is occurring over an ever-widening range. The entire State except those counties north of Deer Lodge and Silver Bow in the western area have infestations. The pest has reached the northern border of Montana. LYGUS BUGS (*Lygus* spp.) although abundant, apparently are of economic importance only in seed-producing areas.

Garden and Truck Crop Pests:
COLORADO POTATO BEETLE (Leptinotarsa decemlineata) in the past has not been too important in the State. However, during the year, Gallatin and Madison had higher than usual populations. Control measures effective. POTATO PSYLLID (Paratrioza cockerelli) - Little activity and no heavy infestations on potatoes were reported during the year. BEET WEBWORM (Loxostege sticticalis) - In addition to infestations in sugar beets in the northeast, alfalfa was infested along the Yellowstone River. CABBAGE MAGGOT (Hylemya brassicae) is present in most areas. IMPORTED CABBAGEWORM (Pieris rapae) - Some light to moderate infestations observed in the western part. ONION MAGGOT (Hylemya antiqua) continues to occur in gardens generally throughout State.

Orchard Insects:
BLACK CHERRY FRUIT FLY (Rhagoletis fausta) - Surveys during 1954 indicate this pest to be in most of the cherry-growing region in the northwestern area. MITES (Vasates fockeui and Diptacus gigantorhynchus) - A general outbreak of these two mites occurred simultaneously on the east shore of the Flathead Lake in cherry orchards. PEAR-SLUG (Caliroa cerasi) - Economic infestations of this pest occurred more frequently. Broadwater, Gallatin, Lake, and Ravalli Counties all experienced damage. BLACK CHERRY APHID (Myzus cerasi) increased in numbers; however, in most cases control timely and little damage resulted. PEAR LEAF BLISTER MITE (Eriophyes pyri) was reported in Lake, Ravalli, Missoula, and Flathead Counties. CURRANT FRUIT FLY (Epochra canadensis) was present over much of State. No heavy economic infestations were reported. RASPBERRY CANE BORER (Oberea bimaculata) - This pest and the raspberry root borer occur generally and cause moderate damage throughout many areas of western Montana each year. STRAWBERRY LEAF ROLLER (Ancylis comptana fragariae) is most important in the south-central area. In some cases severe damage to plants resulted.

Insects of Ornamentals:
ASH PLANT BUG (Neoborus amoenus) - Entire southwestern part of State had light to moderate damage on green ash. Heavy damage to ash occurred in localized areas and in one county in the central area. POPLAR BORER (Saperda calcarata) - Severe infestations in Big Horn and Deer Lodge Counties and moderate damage in scattered areas over State. WOOLLY ELM APHID (Eriosoma americanum) was quite abundant and some towns initiated control programs. SPIDER MITES were very

abundant on many coniferous and deciduous trees during the last part of the summer and early fall. VIRGINIA CREEPER LEAFHOPPER (*Erythroneura ziczac*) was particularly abundant in the central area. In some cases, where control measures were not initiated in time, ornamental plants killed. COOLEY SPRUCE GALL APHID (*Chermes cooleyi*) was present in most of State.

Household Pests:
CLOVER MITES (*Bryobia praetiosa*) presented the major household pest problem during the year. Almost all counties reported at least some occurrence. TERMITES infested houses in Dawson and Phillips Counties. STRAWBERRY ROOT WEEVIL (*Brachyrhinus ovatus*) - Numerous requests for information received.

Man and Animal Pests:
MOSQUITOES were present throughout most of the irrigated areas in economic numbers. CATTLE GRUBS (*Hypoderma lineatum* and *H. bovis*) are perennial pests. CATTLE LICE appeared comparatively early during fall. *Haematopinus eurysternus*, *Linognathus vituli*, *Bovicola bovis* and *Solenopotes capillatus* found to occur in the State during the year. HORN FLY (*Siphona irritans*) was about normal in abundance.

USDA, AGRL RESEARCH SERVICE
ENTOMOLOGY RESEARCH BR
FRUIT INSECTS SECTION
3-7-55 PLANT INDUSTRY STATION
IPS BELTSVILLE, MD